Water Allocation Program Development

Committee Missions, Deliverables and Recommendations for Phase I

Water Allocation Program Advisory Committee (WAPAC)
Statement of Purpose: Develop a set of recommendations for a comprehensive, statewide water allocation program through the subcommittee process for consideration of the Rhode Island Water Resources Board, consistent with the following overall mission and guiding principles. *(Full text attached)*

Deliverable: Final Report to the RI Water Resources Board that prioritizes recommendations for short, intermediate and long term program development and implementation. (December 2003)

Water Use Reporting Committee
Mission: Review water use data, identify gaps in the two pilot basins and recommend methods for addressing those gaps.

Deliverables:

- An evaluation of programs in other states and their relation to an overall allocation approach
- A written proposal for a water use reporting system, or other approaches which:
  - Evaluate program need, the menu of options and the preferred approach
  - Assess the sufficiency of existing data
  - Estimate the costs and timing associated with program development, implementation and maintenance

Preliminary Recommendations**:**

1. Collect metered data to accurately reflect agricultural water use
2. Require "major" public suppliers (those required to submit WSSMPs) to report monthly water withdrawal data annually on a calendar year basis. The committee felt that this could be accomplished in the short term and that data is available now
3. Require "major" public suppliers to breakdown and report water use by category (domestic, commercial, industrial, institutional, "nonaccount") quarterly, based on a calendar year. There was recognition that this may take time to implement as systems update software/capacity for reporting
4. Conduct research to develop a range of domestic coefficients for water use which reflect seasonal variability, domestic irrigation systems (sprinklers), lawn size, age (vegetation), to assist local land use decisions on water availability for future subdivisions. Public water system studies and data as well as a "metered study" for self-supply with/without sprinklers, with varying lot sizes were offered as potential approaches to improving data and establishing a range of coefficients
5. Require water use reporting over 20,000 gallons per day (for any three month period or on an average annual basis) for all self supplied users as well as "minor" suppliers statewide. The committee is still working on the language to capture the "right"

threshold on a seasonal and annual basis. The committee is advocating a hydrologically based threshold

Stream Flow Standards Committee

Mission: Develop instream flow standards, including site-specific standards that allow for maximum sustainable use of the State's waters and are protective of the biological, chemical and physical integrity of those waters.

Objectives:

- Establish an interim instream flow standard applicable to new withdrawals and for planning purposes.
- Determine acceptable methodologies for measurement and estimation of instream flows to establish site-specific standards.
- Identify data gaps in stream flow gaging.
- Establish scientific framework to create long-term watershed specific instream flow protocols.
- Identify funding needs and sources
- Develop recommendations on implementation of instream flow standards.

Deliverables:

- ❖ A proposal for an interim Rhode Island instream flow standard(s) along with an assessment of need and proposed application.
- ❖ Recommendations for developing long-term site-specific standards, an identification of data, priority areas, and funding needs for implementation.

Preliminary Recommendations: (Under review)

1. Watershed specific instream flow protocol is the preferred approach for establishing instream flow standards in Rhode Island. The Subcommittee recognizes that this will take several years to develop and implement. Consequently, the Subcommittee recommends the use of a simplified reconnaissance level method in the interim. The interim method would only be used for new withdrawals and planning purposes.

2. As watershed specific standards are being developed, the subcommittee recommends use of an interim standard for new withdrawals and planning purposes. The subcommittee has considered a wide range of alternatives, and has found none substantially superior to the RIABF interim standard proposed by DEM. The subcommittee wants to further evaluate the RIABF as the interim standard.

3. Site-specific empirical stream flow methodologies should continue to be accepted as an alternative to the interim method. The R2 Cross and Wetted Stream Perimeter Methods appear to be acceptable methodologies however, the subcommittee recommends the establishment of guidance in application of these methodologies.

4. The Subcommittee recommends development of a watershed specific standard that quantifies the relationship between instream flow and critical stream resources and

acknowledges existing uses. The subcommittee recognizes that these recommendations are costly and recommends that funding should be made available for this process.

5. The Subcommittee recognizes that the stream gaging network needs to be improved and that stream gaging is a vital part of managing stream flow. The subcommittee recommends a statewide stream gaging network that has at least one long-term continuous gage for each 12-digit HUC delineation.

6. The Subcommittee recommends that during periods of drought or water emergency, use of water, normally within protected minimum flows or levels, be allowed as necessary to protect public health and safety and to prevent widespread economic harm, provided every precaution has been taken to prevent permanent impairment of the biological, chemical, or physical integrity of the water source

Priority Uses Committee

Mission: The mission of the Water Allocation Priority Uses Subcommittee is to produce a set of dynamic criteria that may be used by the Water Resources Board in developing standards for uses of waters of the state. The criteria should be informed by existing state policy and federal and state law and shall be tailored to the degree supportable by existing data as well as to the unique characteristics of watersheds and basins.

The subcommittee shall develop these criteria based upon a review of:

- Existing laws, regulations and policies of the State of Rhode Island that pertain to priorities for all uses of water in the State, including but not limited to: drinking water supply, fire protection, agriculture, aquaculture, industry, preservation of the environment, and recreational use; and

- Existing and projected needs for all uses of the State's waters.

Deliverables

- ❖ Compilation and assessment of relevant statutes, WSSMP content related to tiered restrictions and an analysis of current uses by basin beginning with the two available basin studies.
- ❖ Proposed criteria and hierarchy for priority uses

Preliminary Recommendations: *(Full text attached)*

1. Preference, but not exclusive use, should be given to allocation up to the safe yield or other applicable limit of allocation of the resource according to the following priorities:
   (a) Direct human consumption or sanitation insofar as necessary for human survival and health;
   (b) Uses necessary for the survival or health of livestock and to preserve crops or physical plant and equipment from physical damage or loss in so far as it is reasonable to continue such activities in relation to particular water sources; and

(c) Other uses in such a manner as to maximize employment and economic benefits within the overall goal of sustainable development as set forth in the comprehensive water plan.

Within each preference category, uses are to be preferred that maximize the reasonable use of water.

2. Applications to renew a permit (should permits be required) should be evaluated by the same criteria applicable to an original application, except that renewals shall be favored over competing applications for new withdrawals if the public interest is served equally by the competing water uses after giving consideration to the prior investment pursuant to a valid water right in related facilities as a factor in determining the public interest

   When the waters available from a particular water source are insufficient to satisfy all lawful demands upon that water source, permits shall be revoked according to the reverse order of priority set for granting of permits and in accord with existing policy and procedures.

Water Rights/Regulatory Authority Committee

Mission: Review existing water rights doctrine in the United States, particularly in Rhode Island and recommend a suitable rights structure for Rhode Island. Clarify the existing regulatory framework of water management in Rhode Island by depicting organizational authority with water use.

Deliverables:

- A summary of riparian legal history and application in Rhode Island and recommendations for a *suitable* rights structure.
- A matrix of water use categories and jurisdictional authorities, an assessment of potential user conflict and jurisdictional gaps, if any and recommendations regarding authority and conflict resolution.
- A taxonomy of reasonableness (coordinate with priority use committee)

Preliminary Recommendations: *(Full text attached)*

<u>General</u>

1. [From the Code, § 1R-1-01] The waters of the State of Rhode Island are a natural resource owned by the State in trust for the public and subject to the State's sovereign power to plan, regulate, and control the withdrawal and use of those waters, under law, in order to protect the public health, safety, and welfare
2. An accurate inventory of surface and groundwater withdrawals and water supplies is necessary to properly manage the water resources of the State
3. Water withdrawals should continue to be subject to the "reasonable use" standard
4. Water allocation decisions should recognize the interdependencies of water quality and water quantity, and between groundwater and surface waters
5. Water allocation should play an important role in land use and development decisions, both in ensuring sufficient supply of water, and also in assessing the impact

of development on water resources

Priorities:

1. The agricultural sub-committee concluded that agriculture is "a" priority and usually ranked 2nd next to direct human consumption or sanitation necessary for human survival and health
2. "When the waters available from a particular water source are insufficient to satisfy all lawful demands upon that water source, water is to be allocated . . . up to the safe yield or other applicable limit of allocation of the resource according to the following preferences:
   - (a) direct human consumption or sanitation in so far as necessary for human survival and health;
   - (b) uses necessary for the survival or health of livestock and to preserve crops or physical plant and equipment from physical damage or loss in so far as it is reasonable to continue such activities in relation to particular water sources; and
   - (c) other uses in such a manner as to maximize employment and economic benefits within the overall goal of sustainable development as set forth in the comprehensive water plan"
3. Within classes of users, priorities may also be assigned to those users who have provided information about their prior and existing water use, have adopted water-conservation practices, or have done a combination of these two
4. Flexibility in working with priorities is valued; however, clarity and certainty in determining rights based on priorities is also important

Water Rights Structure:

- Alternative 1: Management of Drought Situations
  - During regular years, no changes would occur, although water users would be encouraged to report information concerning their use. If drought conditions exceed set triggers, additional restrictions will be implemented
    - Alternative 1a: Regulatory Approach
    - Alternative 1b: Market Approach
    - Alternative 1c: Voluntary Approach

- Alternative 2: Full Permit System
  - Under this system, a permit would be required for withdrawing water from either groundwater or surface water resources. Exceptions to the permit requirement could be available for withdrawals below a specified quantity

- Alternative 3: Registration System
  - Under this system, users of both surface and groundwater above a threshold level would be required to register their water use. The registration system would be used to collect information needed to build the inventory of water uses in Rhode Island. It might be later combined with a Drought Management System

- Alternative 4: Combinations of these systems
  - The ultimate allocation plan could involve combinations of these systems. For instance, very large water users could be under a permitting system, whereas users below the criteria level could be under a drought management system

Groundwater Recommendations:

- Groundwater should be managed in a manner consistent with the management of surface waters
- Additional information about the use of groundwater and availability of groundwater for specific aquifers is necessary
- Triggers for more close management of groundwater withdrawals could involve measurements of groundwater use to availability in particular aquifers, or measurements of stream flow in designated streams that feed specific aquifers

Out-of-Basin Transfer Committee

Mission: Develop criteria for out-of basin transfers that protect the reasonable needs of water basins.

Deliverables:

- GIS based assessment of "interbasin movement of water" and an analysis of where such movement creates issues.
- Recommended actions to address transfers where needed
- A working definition of "interbasin transfer"

Preliminary Recommendations: (Under review)

1. Discourage future OOBT, especially, but not exclusively of, groundwater—except during emergencies
   - Encourage emergency interconnections
   - Review existing written agreements between public water suppliers that provide for OOBT, whether instate or interstate; provide for new agreements where none exist
2. Using NEWUDS, determine an accurate method to calculate OOBT for each basin considering future water demand.
3. Investigate a water withdrawal permit system that considers OOBT, stream flow and conservation among other criteria.
   - Assess impacts that would impair the sustainable development of the basin of origin with stream flow as the controlling factor.

- Determine the impact on established minimum flows from the point in the basin where the withdrawal occurs.

4. Investigate a statewide "pre-application review process" for development projects that are deemed "significant" from a basin standpoint.
   - Establish formal, multi-disciplinary teams to provide review.
5. Create a new, statewide governance structure to administer permit systems for water withdrawal/use; or suggest adoption of certain portions of the Regulated Riparian Model Water Code which would enable existing agencies to modify their policies, procedures and regulations to support the objectives of the WAPAC.

Fees/Water Rates/Alternatives Committee

Mission: Using economic analysis and other means, identify ways that water and wastewater rate structures can be modified to better reflect the cost of using water and preserving the resource. Proposed rate structures would encourage conservation, efficient water management, and consider affordability and equity implications. Investigate the use of fees and other alternative strategies to reduce, reuse, or recycle water.

Deliverables:

- ❖ An assessment of current fee structures and rates (water and wastewater).
- ❖ Recommendations for water pricing strategies which consider the full cycle of water and future supply needs.

Preliminary Recommendations:

1. Fair and reasonable rates

- Eliminate flat or fixed water and sewer rates and tie rates to volume of water used; use preferred (lower) rates for those using less water or reusing water; use seasonal (higher) rates or temporary drought surcharges during periods of water scarcity;
- Establish a "consumption per capita" standard which considers household size; consider an excess use rate over the standard rate.

2. Fees

- Consider a Water Allocation fee for all water users, public and private; prepare a list of WAP initiatives that the fee would pay for; conduct a feasibility analysis regarding program implementation (user groups, fee collection process, administering authority, restricted receipts, etc.)
- Consider other fees, such as impact fees, system development fees, pump fees.

3. Alternatives

- Billing Standardization: encourage suppliers to increase frequency of billing, depict # of days in the billing cycle, show consumption history, and reserve space for conservation messages; encourage suppliers to convert HCF to gallons on bills; encourage suppliers to follow national accounting standards for the industry; investigate combined water and wastewater billing or education
- Revise state plumbing and building codes and/or local ordinances to require water efficient fixtures and appliances and water meter installation. Equip irrigation meters with sensors for automatic shut off

- Encourage communities and suppliers to standardize response to drought (water restrictions, drought surcharges, etc.)
- Conservation Education: encourage a conservation mindset among water suppliers and the public

Education and Public Relations Committee
Mission: Carry out an education, outreach and public relations program promoting long-range conservation and use of the water resources of the state. Pay particular attention to the needs of local municipalities, water supply districts, and constituencies most likely to be affected by a water allocation program.

Deliverables:
- ❖ A public relations and outreach strategy for the allocation program effort
- ❖ A recommended conservation education strategy

Preliminary Recommendations:

1. Pending findings of WAPAC committees, the Education Committee will make recommendations regarding education, training, technical assistance or public relations initiatives to promote long-range conservation and use of the states' water resources. Recommendations will be particular to the needs of local municipalities, water supply districts, and constituencies most likely to be affected by a water allocation program. Financial resources must be made available over the long term for education to be successful
2. Hire a public relations professional to prepare a comprehensive media strategy
3. Pending findings of the WAPAC, the Education Committee will prepare and package materials for the Governor and the RI General Assembly
4. Promote, establish and coordinate conservation programs regarding efficient use of water. Ideally, efforts will be timed with significant, statewide, environmental observances
   - · Ex: provide discounted rain barrels, rain gauges, and automatic sprinkler sensors to the public
   - · Work with vendors regarding price incentives for water efficient fixtures and appliances
5. In addition to public presentations, continue to use list serves, linked web pages and other electronic and print media to keep the public informed

Integrated Water/Wastewater and Technical Assistance Committee
Mission: Develop a marketing plan for wastewater to maximize the efficiency of water use, and wastewater and storm water reuse to meet present and future needs.
Focus areas include:
1. Wastewater reuse
2. Educational programs
3. Replumbing & other possibilities for increased water efficiency
4. Demonstration projects
5. Conservation from financial incentives (identify the carrots and the sticks).

Deliverables:

- ❖ Recommendations for implementation of selected best management practices and strategies for related technical assistance efforts and demonstration projects.
- ❖ An assessment of potential reuse opportunities and recommendation for a phase I implementation program

Preliminary Recommendations: (Under review)

1. Develop a marketing plan for wastewater to maximize the efficiency of water use, as wells as wastewater and storm water reuse to meet present and future needs
2. Recommendations for implementation of selected best management practices

Impact Analysis Committee

Mission: Evaluate the social, economic, and environmental impacts of current water supply and use issues in Rhode Island and assess the impacts of proposed actions.

Deliverables:

- ❖ An identification and assessment of the economic and environmental impacts of a "no action" scenario in the Pawcatuck and the Blackstone basins including analysis of projected land use and population trends.
- ❖ An evaluation of the water use and supply issues associated with projected trends.

Preliminary Recommendations: *(Full text attached)*

To support the recommendations below, we advocate several kinds of information gathering and analysis to determine the environmental, social, and economic impacts of water withdrawal.

- · Water Resources Board – USGS Basin Studies
- · Enhanced Stream Flow Monitoring
- · Recalculation of Safe Yield
- · Build-out Analysis & Evaluation of Alternative Regulatory Scenarios
- · US Army Corp of Engineers type Impact Modeling

· <u>Establish standards, priorities, and protocols to protect the natural environment.</u> The state must establish a process that prioritizes natural resources including habitats, wetlands, and waterways. Stream flow standards need to be adopted, with special consideration given to priority areas. Priorities must come from a participatory planning process that combines ecological knowledge and community values. Public authority to manage water demand must extend to all users.

· <u>State leadership in support of municipal planning.</u>
All the recommended studies above are statewide in scope and will require leadership and funding at a state level. We feel it is important to emphasize that the recommended build out analysis also should be spearheaded and supported financially at the state-level with municipalities and regional planning organizations as partners. The Comprehensive Planning statutes and State Guide Plan already require municipalities to consider water

resource issues, but the complexity of water and growth issues exceed the planning resources of many communities.

- Demand Management.
  The demand management tools available to suppliers need to be expanded to avoid scarcity. There are technologies and development practices that can significantly reduce water demand. Both large and small consumers are unlikely to adopt best practices on a large scale in the absence of a sophisticated education and technical assistance program. The demand management programs required of electric utilities are a model. Conservation pricing is a potentially effective demand management tool as well as a source of revenue for demand management programs.

Joint Advocacy and Funding Committee

Mission: Evaluate and recommend legislative strategies and cooperative funding to implement water allocation initiatives.

Deliverables

- An analysis of water resource management spending by entity and category
- Recommended strategies for funding, and pooling resources

Preliminary Recommendations: (Pending)